PATENT
Docket No. 360842008300

CERTIFICATE OF HAND DELIVERY

I hereby certify that this correspondence is being hand filed with the United States Patent and Trademark Office in Washington, D.C. on January 29, 2002

Mildred I. Ayim

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Masahiro KIHARA et al.

Serial No.: Not yet assigned

Filing Date: January 29, 2002

For: DESALINATION METHOD AND DESALINATION APPARATUS

Examiner: Not yet Assigned

Group Art Unit: Not yet Assigned

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination on the merits, please amend this application as follows:

IN THE SPECIFICATION:

Page 1, line 2, after the title of the invention, please insert the following new heading:

BACKGROUND OF THE INVENTION

Page 1, line 7, please insert the following new heading:

Description of the Related Art

Page 2, line 28, please insert the following heading:

SUMMARY OF THE INVENTION

Page 3, line 19, please insert the following heading:

BRIEF DESCRIPTION OF THE DRAWINGS

Page 4, line 24, please insert the following heading:

DETAILED DESCRIPTION OF THE INVENTION

<u>IN THE CLAIMS:</u>

1. (Amended) A method of desalinating water in a plurality of stages comprising membrane module units, wherein permeate water from a first stage membrane module unit is supplied to a second stage membrane module unit to obtain desalinated water therefrom, the method comprising:

processing at least a portion of a feed water having a total salt concentration of 3.0 to 4.8% by weight and a calcium ion concentration of 200 to 500 mg/l, wherein said at least a portion of the feed water is treated with the first stage membrane module unit to obtain the permeate water, said permeate water being optionally mixed with an additional portion of the feed water to produce a second stage intake water, the second stage intake water having a total salt concentration of about 55 to 90% of that of the feed water and a calcium ion concentration of about 95% or less of that of the feed water; and

supplying the second stage intake water to the second stage membrane module unit, thereby obtaining the desalinated water.

18. (Amended) A desalination apparatus comprising:

at least first and second membrane module units at respective successive first and second stages for water permeation,

as a said first membrane unit at the first stage, a nanofiltration membrane module unit having a membrane module and an outlet channel for water permeated thereby,

as a said second membrane unit at the second stage, a reverse osmosis membrane module unit disposed in the outlet channel of the nanofiltration membrane unit; and

optionally means for diverting a portion of feed water supplied to the nanofiltration membrane module unit directly to the said outlet channel thereof so as to bypass the membrane module thereof.

REMARKS

The above amendments to the specification have been made to place the application in proper U.S. format. None of the amendments herein are made for reasons related to patentability. No new matter has been added.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made**".

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 360842008300. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: January 29, 2002

By: ______________________________

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

For the convenience of the Examiner, the changes made are shown below.

IN THE SPECIFICATION:

Page 1, line 2, after the title of the invention, the following new heading has been inserted:

BACKGROUND OF THE INVENTION

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BRIEF DESCRIPTION OF THE DRAWINGS

Page 4, line 24, the following new heading has been inserted:

DETAILED DESCRIPTION OF THE INVENTION

IN THE CLAIMS

1. (Amended) A method of desalinating water in a plurality of stages [at which respective] comprising membrane module units [are disposed], wherein permeate water from a first stage membrane module unit is supplied to a second stage membrane module unit to obtain desalinated [permeate] water therefrom, the method comprising:

[a first step of] processing at least a portion of a feed water having a total salt concentration of 3.0 to 4.8% by weight and a calcium ion concentration of 200 to 500 mg/l, [in which first step] wherein said at least a [proportion] portion of the feed water is treated with the first stage membrane module unit[,] to obtain the permeate water, [and which] said permeate water [is] being optionally mixed with an additional portion of the feed water to produce a second stage intake water, the second stage intake water [thus processed in the first step thereby] having a total salt concentration of about 55 to 90% of that of the feed water and a calcium ion concentration of about 95% or less of that of the feed water; and

[a second step of] supplying the second stage intake water [processed by the first step] to the second stage membrane module unit, thereby obtaining the desalinated water.

18. (Amended) A desalination apparatus comprising:

at least first and second membrane module units at respective successive first and second stages for water permeation,

as a said first membrane unit at the first stage, a nanofiltration membrane module unit having a membrane module and an outlet channel for water permeated thereby,

as a said second membrane unit at the second stage, a reverse osmosis membrane module unit disposed in the outlet channel of the nanofiltration membrane unit[, for permeated water]; and

optionally means for diverting a [proportion] portion of feed water supplied to the nanofiltration membrane module unit directly to the said outlet channel thereof so as to bypass the membrane module thereof.